



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

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D119-646-241
Job Sheet 192324



Part No: D119-646-241

Job Qty: 1 ea

Part Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/21/19

Job Tracking No:

Due Date: 4/10/19

Created By: Marie Lajeunesse

Type: SOLD

Description: *order 14509*

Note: DWG IIN-D119-646 REV D, D3887-045 REV E SHEETS 4, 6-11 IPP RevA: New issue DD verified by:EC IPP REV B 12.11.05 (DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:D 17.05.19 as per dwg D3887 rev.e DD verf:JFS

Ship Via:

Bill of Materials



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S165066



Part: D119-646-241

Job No: 192324

Serial No/Batch: S165066

Revision:

Inspector:

Exp Date:

Instructions: FAA STC SR02024SE 18/10/17 TC STC LoA P-09-0407-RDIMS-

SCRAP

P.T.O.

Scrap

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		4/10/19	0.00	0.00	Start Up Skidtubes-1		MB
110	Skidtubes	1 pcs		4/10/19	0.77	0.05	Skidtubes-1		MB
120	HandFinish	1 pcs		4/10/19	0.00	0.79	HandFinish1		DR 19/03/22
121	QC	1 pcs		4/10/19	0.00	0.00	QC7-1		MB
122	QC	1 pcs		4/10/19	0.00	0.00	QC5		MB
130	Skidtubes	1 pcs		4/10/19	0.00	2.38	Skidtubes-1		MB
135	QC	1 pcs		4/10/19	0.00	0.00	QC5		MB
140	Skidtubes	1 pcs		4/10/19	0.00	2.38	Skidtubes-1		MB
150	QC	1 pcs		4/10/19	0.00	0.00	QC5		MB
160	Skidtubes	1 pcs		4/10/19	0.00	2.44	Skidtubes-1		MB
170	QC	1 pcs		4/10/19	0.00	0.00	QC5		MB
180	QC	1 pcs		4/10/19	0.00	0.00	QC10		MB
190	HandFinish	1 pcs		4/10/19	0.00	0.33	HandFinish2		MB
200	Powdercoat	1 pcs		4/10/19	0.00	0.20	Powdercoat1		MB
210	QC	1 pcs		4/10/19	0.00	0.00	QC3		MB
240	HandFinish	1 pcs		4/10/19	0.00	0.79	HandFinish4		MB
250	QC	1 pcs		4/10/19	0.00	0.00	QC5		MB
258	DC	1 pcs		4/10/19	0.00	0.00	DC		MB
260	Packaging	1 pcs		4/10/19	0.00	0.00	Packaging3-1		MB
270	QC21-FG	1 Ea		4/10/19	0.00	0.00	QC21		MB

Part Op 110 - 1- inspect Mat'L D2500-1-190 for damage 2-Cut tube to length as per dwg D3887 (154.8") 3- Ensure squareness of Descriptions: ends and scribe batch#

130 - 1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only. 2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes. 3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477 4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes*** 5- Deburr, blow out chips from inside of tube. 6- Bond web in place as per Dwg D3887 & QSI 015. A/R Sikaflex-291 5/63445 Sikaflex expire date: 19-04-23 Start: 19-03-27 Time: 3:30 PM Finish: 19-03-28 Time: 3:30 PM *****Adhere for 12 hours*****

140 - 1- Bend FWD end of tube using bender 1 and bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning*** 2- Cut FWD end of tube as per dwg D3887.***Verify measurement*** 3- Buff out marks left from bending 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208" 5- Open FWD saddle holes to finished size as per dwg D3887 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement) 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size. 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg. 9- C'sink FWD cap hole as per detail "C" 10- Countersink crossbolt spacer holes, and prepare tube for welding, deburr. 11- Deburr and blow out chips from inside of tube.

160 - NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDLING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/R Aluminum Rod

2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole. 3-Counterbore x-bolt spacer holes as per Dwg D3887 using DT10279. 4-Deburr and blow out chips from inside of tub 5- Pick D2855-5 cap and transfer drill missing hole. Deburr and identify cap with skidtube batch#.

170 - TEST FIT USING FIXTURE DT10091.

200 - ***MASK AREA SHOWN ON SHEET 7, NOTE 9*** START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____

240 - 1-Install wearplates as per Dwg D3887. 2 -Inspect for foreign objects as per QSI 024 3 -Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 4

-Install insert in D2855- Cap. Install cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 5- INSPECT TORQUE ON BOLTS AS PER DWG.

BY: _____ DATE: _____ 6-Wing Walk as per dwg QSI005 4.4 Batch: _____

258 - Photocopy bluefile & type labels per PPP D119-646-241 CHG005

260 - Location : FG108

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190	Ext'n -1' Beam Tube 4"	1 pcs (1 ea)	90-Start up Operation	5112963
D2579	Crossbolt Spacer	2 pcs (2 ea)	140-Skidtubes	
D3885-1	Standard Web	1 pcs (1 ea)	140-Skidtubes	5141106
D3681-1	Spacer	12 pcs (12 ea)	160-Skidtubes	
D3903-1	Spacer	12 pcs (12 ea)	160-Skidtubes	
ALS4-1032-225	Rivnut	1 Ea (1 ea)	240-HandFinish	
AN3C46A	Bolt	8 Ea (8 ea)	240-HandFinish	
AN3C5A	Bolt	2 Ea (2 ea)	240-HandFinish	
D2855-3	Cap	1 pcs (1 ea)	240-HandFinish	
D2855-5	Cap	1 pcs (1 ea)	240-HandFinish	
D3492-045	Plug Assembly	8 pcs (8 ea)	240-HandFinish	
D3672-1	Washer, Phenolic	2 pcs (2 ea)	240-HandFinish	
D3849-041	Fwd Heavy-Duty Wearplate, Std Skid Compatible	1 pcs (1 ea)	240-HandFinish	
D3849-043	Aft Heavy-Duty Wearplate, Std Skid Compatible	1 pcs (1 ea)	240-HandFinish	
D3904-1	Washer	16 pcs (16 ea)	240-HandFinish	
MS21043-3	Nut	8 Ea (8 ea)	240-HandFinish	
MS24694-C52	Screw	2 Ea (2 ea)	240-HandFinish	
NAS1149C0332R	Washer	2 Ea (2 ea)	240-HandFinish	

Job Allocations

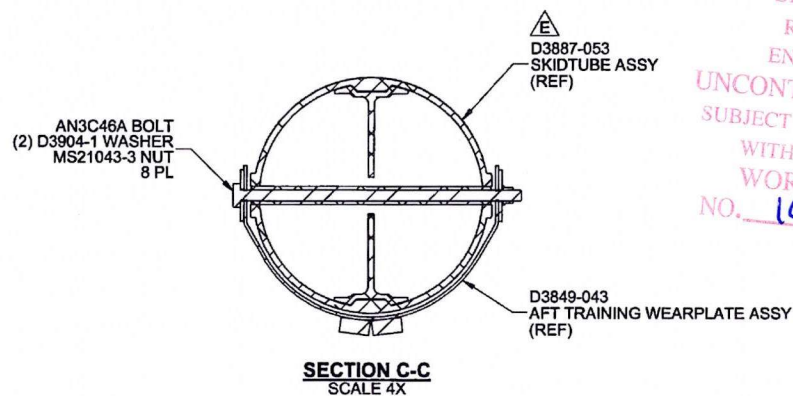
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-190	1	32	0
140-Skidtubes	D2579	2	118	0
	D3885-1	1	7	0
160-Skidtubes	D3681-1	12	204	0
	D3903-1	12	151	0
240-HandFinish	ALS4-1032-225	1	937	0
	AN3C46A	8	201	0
	AN3C5A	2	1,437	0
	D2855-3	1	32	0
	D2855-5	1	52	0
	D3492-045	8	36	0
	D3672-1	2	1,881	0
	D3849-041	1	1	0
	D3849-043	1	7	0
	D3904-1	16	64	0
	MS21043-3	8	941	0
	MS24694-C52	2	82	0
	NAS1149C0332R	2	5,033	0

Part Specifications

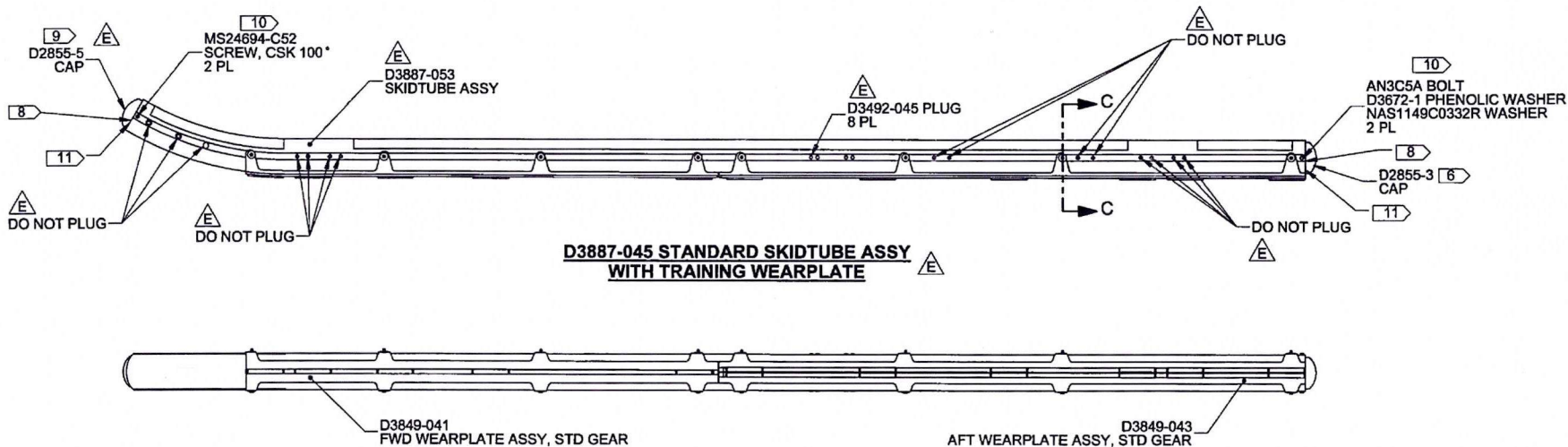
Specifications could not be found.

Plex 3/21/19 10:01 AM Dart.lajeunesse.marie

ITEM	QTY -045	P/N	DESCRIPTION
	X	D3887-045	STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
1	1	D2855-3	CAP ASSY
2	1	D2855-5	CAP ASSY
3	8	D3492-045	PLUG
4	2	D3672-1	PHENOLIC WASHER
5	1	D3849-041	FWD WEARPLATE ASSY, STD GEAR
6	1	D3849-043	AFT WEARPLATE ASSY, STD GEAR
7	1	D3887-053	SKIDTUBE ASSY
8	16	D3904-1	WASHER
9	1	ALS4-1032-225	INSERT
10	8	AN3C46A	BOLT
11	2	AN3C5A	BOLT
12	8	MS21043-3	NUT, SELF-LOCKING
13	2	MS24694-C52	SCREW, CSK 100"
14	2	NAS1149C0332R	WASHER



SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 192329
MWS
1905-21



NOTES:

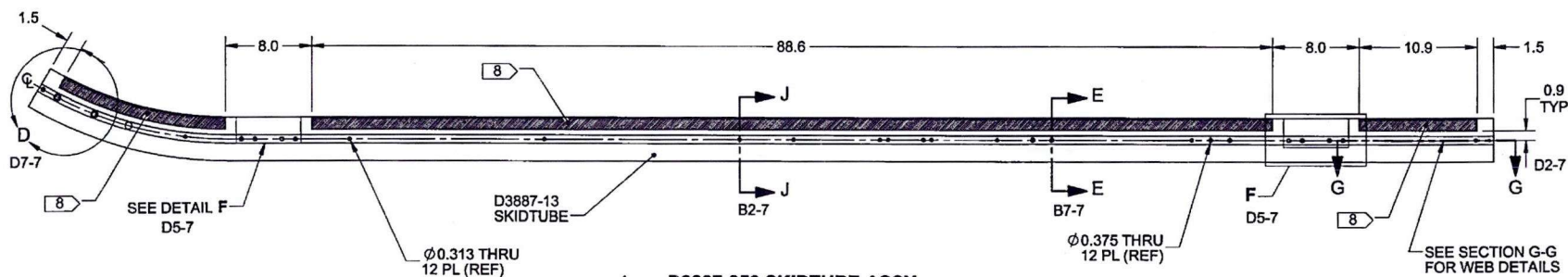
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3887-045" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 38.1 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3887-053 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP. OPEN HOLE TO Ø0.297, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

RELEASED
2017-05-08

APPROVED

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	WK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 4 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
DATE	17.02.03	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

ITEM	QTY -053	P/N	DESCRIPTION
	X	D3887-053	SKIDTUBE ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3681-1	CROSS BOLT SPACER
3	1	D3885-1	STANDARD WEB
4	1	D3887-13	SKIDTUBE
5	12	D3903-1	CROSS BOLT SPACER



D3887-053 SKIDTUBE ASSY
(WELDING DETAIL)

NOTES:

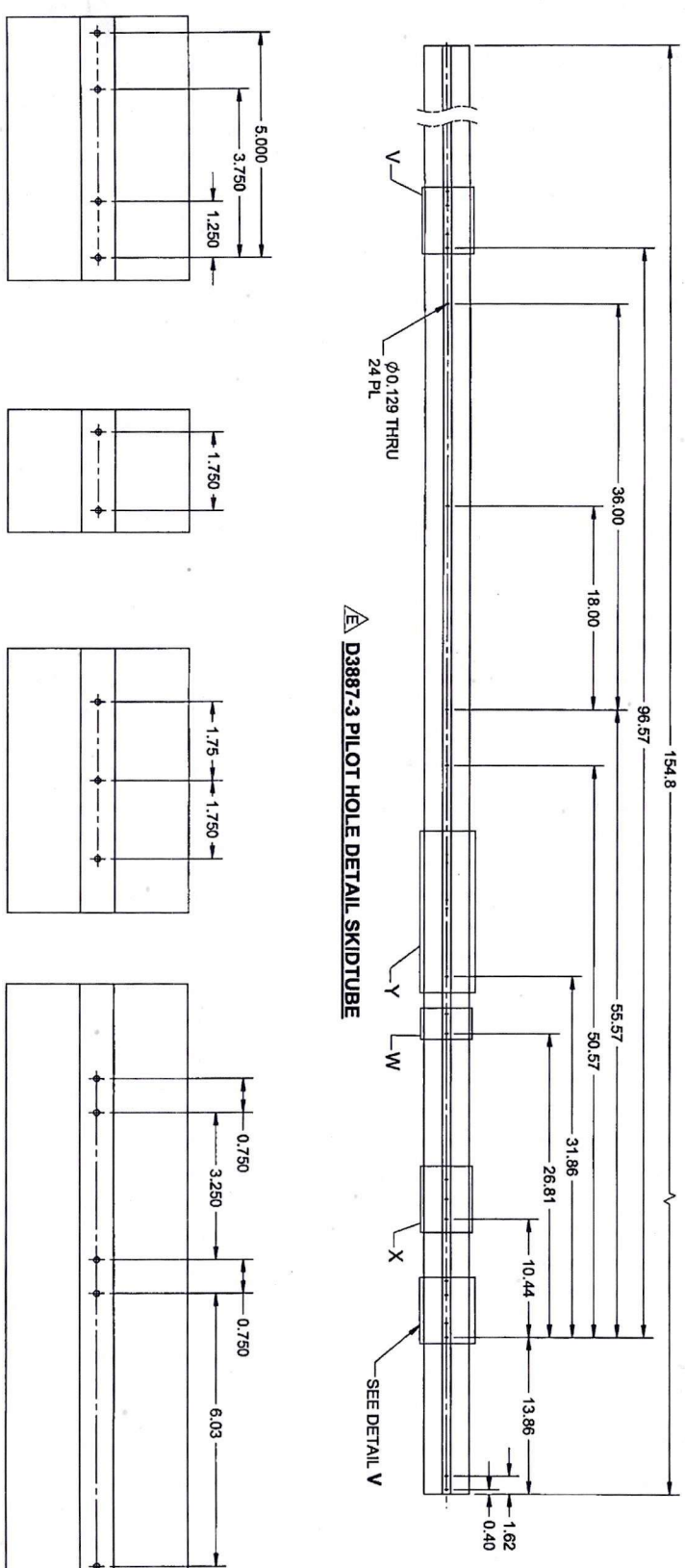
- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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2017-05-08

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DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	WK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 6 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
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D3887-3 PILOT HOLE DETAIL SKIDTUBE



DETAIL V
SCALE 4X
2 PL

DETAIL W
SCALE 4X

DETAIL X
SCALE 4X

DETAIL Y
SCALE 4X

- NOTES:**
- 1) MATERIAL: MAKE FROM D2500-1-190 EXTRUSION
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
 - 7) WEIGHT: N/A

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2017-05-08

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DESIGN	RF	RF	DART AEROSPACE USA, INC.
DRAWN	WK	RF	EUGENE, OR
CHECKED	RF	RF	
MFG. APPR.	DD	DD	D3887
APPROVED	HS	HS	A119 STD SKIDTUBE ASSY
DE APPR.	DS	DS	
DATE	17.02.03		

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>192324</u> Part No. <u>0119-646-241</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☒ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐		
Date: <u>19-04-15</u>	Sequence #: <u>140</u>	QTY Affected: <u>1</u>	MRB (QSI042) DAS 9 9-89 <u>19-04-15</u>	
Description Work Order Deviation		Disposition		Completed By <u>JW</u> <u>19-04-15</u>
<u>Tube Kinked Beyond Repair</u> <u>During Bending</u>		<u>Scrap</u>		Lead hand / Supervisor <u>JW</u> <u>19-04-15</u>
				QC / QA Coordinator DAS 68 9-89 APR 15 2019
Root Cause Operator ☐ Manufacturing Process ☒ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☒ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		
Other/Details:				